

0052054

049923

Environmental
Restoration
Contractor**ERC Team**
Interoffice Memorandum

Job No. 22192

Written Response Required? NO

Closes CCN? N/A

OU 200-ZP-1

TSD N/A

FRA N/A

Subject Code 8640

TO: M. A. Buckmaster, H0-19
M. J. Galgoul, H9-03

DATE: July 17, 1997

COPIES: See Below

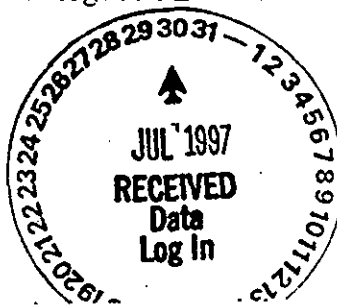
FROM: R. T. Coffman
Sampling and Analytical Services
X7-02/531-0661SUBJECT: 200-ZP-1 PHASE II PERFORMANCE MONITORING, GROUNDWATER
RESULTS, MAY 1997, REV 0

REFERENCES:

1. BHI, 1997, *On-Site Measurements Quality Assurance Plan*, BHI-QA-03, Plan 5.2, REV 1, Bechtel Hanford, Inc., Richland, Washington.
2. BHI, 1995, *Field Screening Procedures*, BHI-EE-05, Bechtel Hanford, Inc., Richland, Washington.
3. BHI, 1997, *200-ZP-1 Field Screening Support Logbook*, EL-1359, Bechtel Hanford, Inc., Richland, Washington.

This data package contains field screening results for groundwater samples analyzed to support 200-ZP-1 IRM Phase II performance monitoring. The Quality Assurance level for this work corresponds to QC-1 as specified in reference 1 (BHI 1997). Samples collected and analyzed during May 1997 were managed under SAF C97-015 (Group2), and C97-018 (Group 3).

Attachment 1 contains Volatile Organic Compound (VOC) results for groundwater samples collected to support the referenced project. The VOC results were generated using a Hewlett Packard 5890 gas chromatograph with a headspace autosampler operated in accordance with Field Screening Procedure (FSP) 1.29, *Aqueous Headspace Analysis of Volatile Organic Compounds in Water Using Hewlett Packard 5890 Gas Chromatograph* (BHI 1997). Analysis of sample B0K5C9 (299-W14-9) revealed a higher concentration of chloroform than usually seen. A second analysis was performed as a verification of the first set of results. The results of the second analysis were the same as the original analysis. Analysis results can be found on Attachment 1 of this report. Chloroform concentrations have risen from 22 $\mu\text{g/L}$ to 126 $\mu\text{g/L}$, and carbon tetrachloride concentrations have dropped from 420 $\mu\text{g/L}$ to 50 $\mu\text{g/L}$ at this well since November 1996. Information concerning operation and calibration of the gas chromatograph is contained in the instrument logbook EL-1329. Please contact me if you have any questions on this information.



M. A. Buckmaster, H0-19
Page 2



R. T. Coffman, Engineer/Analyst

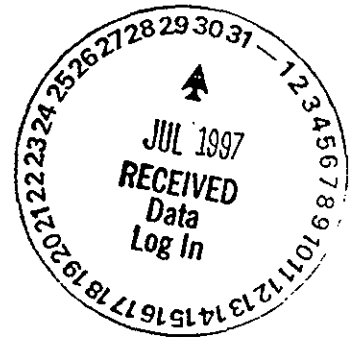
RTC:rtc

Attachments:

- Attachment 1. 200-ZP-1 IRM Phase II Performance Monitoring, Groundwater Results.
May 1997
- Attachment 2. Sample Chain of Custody Sheets

Copies:

- D. E. Ayres, B1-35, w/attachments 1 and 2
- J. V. Borghese, H9-03, w/attachment 1 only
- R. T. Coffman, X7-02, w/attachments 1 and 2
- C. W. Denslow, H9-03, w/attachment 1 only
- B. H. Ford, H0-02, w/attachment 1 only
- J. D. Isaacs, H0-19, w/attachment 1 only
- I. D. Jacques, L6-06, w/attachment 1 only
- R. B. Kerkow, X7-02, w/attachment 1 only
- S. A. Strobe, T7-12, w/attachment 1 only
- D. A. St John, N1-28, w/attachment 1 only
- L. C. Swanson, H9-02, w/attachment 1 only
- BHI Document Control, H4-79, w/original attachments



200-ZP-1 Phase II Performance Monitoring
Groundwater Results, May 1997
SAF C97-015(Group 2) and C97-018(Group 3)

<i>Sample Location</i>	<i>HEIS Number</i>	<i>Sample Date</i>	<i>Analysis Date</i>	<i>Chloroform (µg/L)</i>	<i>Carbon Tetrachloride (µg/L)</i>	<i>Trichloroethylene (µg/L)</i>
299-W14-9	B0K5C9	5/21/97	5/28/97	122	50	2.9
299-W14-9(analysis #2)	B0K5C9	5/21/97	5/28/97	126	50	2.9
299-W15-4	B0K5D5	5/19/97	5/20/97	10	400	<2.0
299-W15-15	B0K5D1	5/22/97	5/28/97	8.4	930	<2.0
299-W15-19	B0K5D2	5/21/97	5/28/97	3.4	220	<2.0
Duplicate @ 299-W15-19	B0K5D3	5/21/97	5/28/97	3.3	230	<2.0
299-W15-30	B0K5C3	5/21/97	5/28/97	50	4000	5.8
299-W15-31A	B0K5C4	5/21/97	5/28/97	15	3700	5.9
299-W15-39	B0K5D4	5/19/97	5/20/97	17	930	<2.0
299-W18-1	B0K5D6	5/22/97	5/28/97	13	1100	<2.0
299-W18-4	B0K5F3	5/20/97	5/28/97	31	81	<2.0
299-W18-21	B0K5D7	5/21/97	5/28/97	4.5	530	<2.0
299-W18-23	B0K5C5	5/22/97	5/28/97	<2.0	230	<2.0
299-W18-26	B0K5C6	5/21/97	5/28/97	20	52	<2.0
299-W18-27	B0K5D8	5/21/97	5/28/97	<2.0	330	<2.0
299-W18-28	B0K5D9	5/22/97	5/28/97	6.6	11	<2.0
299-W18-30	B0K5F0	5/21/97	5/28/97	14	830	2.3
299-W18-32	B0K5F1	5/21/97	5/28/97	<2.0	<2.0	<2.0
699-39-79	B0K5C7	5/22/97	5/28/97	<2.0	33	<2.0
Duplicate @ 699-39-79	B0K5C8	5/22/97	5/28/97	<2.0	34	<2.0

1 Value less than practical quantitation limit

VOA Instrument: Hewlett Packard 5890 GC, Serial # 3235A47685
 Method: Dual DB-VRX columns, ECD/FID, 1 mL headspace injection
 Logbook: 200-ZP-1 Field Logbook, EL-1359

Analyst:

R.T. Coffman 7-17-97
 R.T. Coffman

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-19		Page 1 of 1			
Collector R2 STEFFLER (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018							
Ice Chest No. <i>SNL-561</i>				Field Logbook No. <i>WHC-N-205 #64</i>		Method of Shipment GOVT. VEHICLE							
Shipped To Mobile Laboratory				Offsite Property No. <i>NA</i>		Bill of Lading/Air Bill No. <i>NA</i>							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		Hold Time Cooled to							
				Type of Container		L/S*							
				No. of Container(s)									
Special Handling and/or Storage				Volume		4 mil							
SAMPLE ANALYSIS				VOC BY FIELD									
				Chlorinated Hydrocarbon									
Sample No	Matrix *	Sample Date	Sample Time										
B0K5C9	Water	<i>5-21-97</i>	<i>1245</i>	<i>X</i>									
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS ** Total Activity Results Required **					Matrix * S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other		
Relinquished By <i>R2 Steffler</i>		Date/Time <i>1335</i>		Received By <i>RT Coffman</i>								Date/Time <i>1335</i>	
R2 STEFFLER (RFS)		<i>5-22-97</i>		<i>RT Coffman</i>								<i>5/22/97</i>	
Relinquished By		Date/Time		Received By								Date/Time	
Relinquished By		Date/Time		Received By								Date/Time	
Relinquished By		Date/Time		Received By		Date/Time							
LABORATORY SECTION		Received By		Title				Date/Time					
FINAL SAMPLE		Disposal Method		Disposed By				Date/Time					

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-25		Page 1 of 1	
Collector D.R. BREWINGTON (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field	
Project Designation 200-7P-1 IRM (Group 3) Groundwater Sampling FY 1997				Sampling Location 200W		SAF No. C97-018					
Ice Chest No. <i>5111 # 268</i>				Field Logbook No. <i>UHC-A-205 #63</i>		Method of Shipment GOVT. VEHICLE					
Shipped To Mobile Laboratory				Offsite Property No. <i>RA</i>		Bill of Lading/Air Bill No. <i>RA</i>					
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C					
				Type of Container		Gs*					
				No. of Container(s)		1					
Special Handling and/or Storage				Volume		40ml					
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon					
Sample No.		Matrix *		Sample Date		Sample Time					
BOK5D5		Water		<i>5/19/97</i>		<i>1246</i>		✓			
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS ** Total Activity Exempt **					
Relinquished By D.R. BREWINGTON (RFS) <i>D.R. Brewington</i>		Date Time <i>5/19/97 1310</i>		Received By <i>RT Coffman / ET Coffman</i>		Date Time <i>5/19/97</i>		<div style="font-size: small;"> Matrix * S * Soil SE * Sediment SO * Solid SL * Sludge W * Water O * Oil A * Au DS * Drum Solids DL * Drum Liquids T * Tissue WI * Wipe L * Liquid V * Vegetation X * Other </div>			
Relinquished By		Date Time		Received By		Date Time					
Relinquished By		Date Time		Received By		Date Time					
Relinquished By		Date Time		Received By		Date Time					
Relinquished By		Date Time		Received By		Date Time					
LABORATORY SECTION		Received By		Title				Date Time			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST										C97-018-21		Page 1 of 1			
Collector <i>K. Young</i>				Company Contact JH Kessner				Telephone No. (509) 372-9538				Project Coordinator Stewart, DL				Data Turnaround Field	
Project Designation 200-ZIP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W				SAF No. C97-018									
Ice Chest No.				Field Logbook No. <i>WHC-N-205 #65</i>				Method of Shipment GOVT. VEHICLE									
Shipped To Mobile Laboratory				Offsite Property No. <i>NA</i>				Bill of Lading/Air Bill No. <i>NA</i>									
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCT to pH < 2 Cooled to 4C											
				Type of Container		Gs*											
				No. of Container(s)		1											
Special Handling and/or Storage				Volume		40ml											
SAMPLE ANALYSIS						VOA BY FIELD GC ... Chlorinated Hydrocarbon											
Sample No.		Matrix *		Sample Date		Sample Time											
B0K5D1		Water		<i>5-22-97</i>		<i>1001</i>		<i>X</i>									
CHAIN OF POSSESSION		Sign/Print Names															
		Relinquished By <i>K. Young</i>				Date Time <i>5-22-97</i>		Received By <i>RT Coffman</i>		Date Time <i>5/22/97</i>		SPECIAL INSTRUCTIONS ** Total Activity Exempt **					
		Relinquished By				Date Time		Received By		Date Time							
		Relinquished By				Date Time		Received By		Date Time							
LABORATORY SECTION		Received By				Title				Date Time							
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date Time							

- Matrix *
- S Sed
 - SE Sediment
 - SO Solid
 - SL Sludge
 - W Water
 - O Oil
 - A Air
 - DS From Solids
 - DL From Liquids
 - T Tissue
 - WI Wipe
 - L Liquid
 - V Vegetation
 - X Other

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-22		Page 1 of 1											
Collector HT SICKLE (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field											
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling 11/1997				Sampling Location 200W		SAF No. C97-018															
Ice Chest No. SML #268				Field Logbook No. WHL-N-205 #63		Method of Shipment GOVT. VEHICLE															
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA															
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooked to 4C															
				Type of Container		Gs*															
				No. of Container(s)		1															
Special Handling and/or Storage				Volume		40ml															
SAMPLE ANALYSIS				VOA BY FIELD GC -- Chlorinated Hydrocarbon																	
Sample No.		Matrix *		Sample Date		Sample Time															
B0K5D2		Water		5/21/97		1241		✓													
CHAIN OF POSSESSION		Sign/Print Names						SPECIAL INSTRUCTIONS ** Total Activity Exempt **				Matrix * S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drums Solids DL - Drums Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other									
														Relinquished By		Date Time		Received By		Date Time	
														HT SICKLE (RFS)		5/21/97 13:45		RT COFFMAN / RT Coffman		5/21/97	
														Relinquished By		Date Time		Received By		Date Time	
														Relinquished By		Date Time		Received By		Date Time	
Relinquished By		Date Time		Received By		Date Time															
LABORATORY SECTION		Received By						Title		Date Time											
FINAL SAMPLE DISPOSITION		Disposal Method						Disposed By		Date Time											

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-23		Page 1 of 1			
Collector RT SICKLE (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018							
Ice Chest No. SML # 268				Field Logbook No. WHP-N-205 #63		Method of Shipment GOVT. VEHICLE							
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	HC to pH 12 Cooled to 4C								
				Type of Container	Gs*								
				No. of Container(s)	1								
Special Handling and/or Storage				Volume	40ml								
SAMPLE ANALYSIS					VOA BY FIELD GC -- Chlorinated Hydrocarbons								
Sample No.	Matrix *	Sample Date	Sample Time										
BOK5D3	Water	5/21/97	1241	✓									
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS ** Total Activity Exempt **					Matrix * S - Sed SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation N - Other		
Relinquished By RT SICKLE (RFS)		Date Time 13:45		Received By RT COFFMAN / RT Coffman								Date Time 13:45	
Relinquished By		Date Time		Received By								Date Time	
Relinquished By		Date Time		Received By								Date Time	
Relinquished By		Date Time		Received By								Date Time	
LABORATORY SECTION		Received By				Title				Date Time			
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-015-25						
Collector RZ STEFFLER (RFS)			Company Contact JH KESSNER		Telephone No. (509) 372-9338		Project Coordinator Stewart, DL		Data Turnaround Field					
Project Designation 200-ZP-1 IRM (Group 2) Groundwater Sampling--FY 1997			Sampling Location 200-W		SAF No. C97-015									
Ice Chest No. SML-561			Field Logbook No. WHC-N-205 #64		Method of Shipment GOVT. VEHICLE									
Shipped To Mobile Laboratory			Offsite Property No. NA		Bill of Lading/Air Bill No. NA									
POSSIBLE SAMPLE HAZARDS/REMARKS			Preservation		HCL to pH 2 Cooled to 4°C									
			Type of Container		Gls*									
			No. of Container(s)		1									
Special Handling and/or Storage			Volume		40ml									
SAMPLE ANALYSIS					VOA BY FIELD GC -- Chlorinated Hydrocarbon									
Sample No.		Matrix *	Sample Date	Sample Time										
B0K5C3		Water	MAY 21 1997	0910	X									
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS TOTAL ACTIVITY EXEMPT					Matrix * S Sed SL Sediment SO Solid SL Sludge W Water O Oil A Air DS Drum Solids DL Drum Liquids T Tissue WI Wipe L Liquid V Vegetation N Other			
Relinquished By <i>RZ Steffler</i>		Date Time 1335		Received By <i>RT Coffman</i>									Date Time 1335	
RZ STEFFLER (RFS)		5-22-97		RT COFFMAN / RT Coffman									5/22/97	
Relinquished By		Date Time		Received By									Date Time	
Relinquished By		Date Time		Received By									Date Time	
Relinquished By		Date Time		Received By		Date Time								
LABORATORY SECTION		Received By				Title				Date Time				
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date Time				

Pacific Northwest National
Laboratory

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C97-015-26

Page 1 of 1

Collector RZ STEFFLER (RFS)

Company & Contact
J H MESSNER

Telephone No.
(509) 372-9538

Project Coordinator
Steven, DI

Data Turnaround
Field

Project Designation
200-Z/P-1 (RNI Group 2) Groundwater Sampling-FY1997

Sampling Location
200-W

SAF No.
C97-015

Free Chest No.

5HL-561

Field Logbook No.

WHL-N-205 # 64

Method of Shipment
GOVT VEHICLE

Shipped To
Mobile Laboratory

Offsite Property No.

NA

Bill of Lading/Air Bill No.

NA

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

SAMPLE ANALYSIS

VOA B)
FIELD QC -
Chlorinated
Hydrocarbon

Sample No.

Matrix *

Sample Date

Sample Time

BOKSC4

Water

MAY 21 1997

1020

X

CHAIN OF POSSESSION

Sign/Print Names

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY ENCAPT

Relinquished By

Date Time 1/335

Received By

Date Time 1/335

Relinquished By

Date Time 5-22-97

Received By

Date Time 5/22/97

Relinquished By

Date Time

Received By

Date Time

Relinquished By

Date Time

Received By

Date Time

LABORATORY
SECTION

Received By

Title

FINAL SAMPLE
DISPOSITION

Disposal Method

Disposed By

Date Time

Matrix *
S Solid
SE Sediment
SO Solid
SI Solid
W Water
A Air
L Liquid
N Nucleon
Matrix *
S Solid
SE Sediment
SO Solid
SI Solid
W Water
A Air
L Liquid
N Nucleon
Matrix *
S Solid
SE Sediment
SO Solid
SI Solid
W Water
A Air
L Liquid
N Nucleon

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-24		Page 1 of 1			
Collector AG RIZZO (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-/P-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018							
Ice Chest No. <i>Sum 493</i>				Field Logbook No. <i>WHC-N-205 64 PAGE 51</i>		Method of Shipment GOVT VEHICLE							
Shipped To Mobile Laboratory				Offsite Property No. <i>N/A</i>		Bill of Lading/Air Bill No. <i>N/A</i>							
POSSIBLE SAMPLE HAZARDS/REMARKS <i>N/A</i>				Preservation		HCl to pH <2 Cooled to 4C							
				Type of Container		Gs*							
				No. of Container(s)		1							
Special Handling and/or Storage <i>200/ 406</i>				Volume		40ml							
SAMPLE ANALYSIS				VOA BY FIELD GC -- Chlorinated Hydrocarbon									
Sample No.		Matrix *		Sample Date		Sample Time							
B0KSD4		Water		MAY 19 1997		1352		<i>L</i>					
CHAIN OF POSSESSION		Sign/Print Names											
		Relinquished By <i>AG RIZZO (RFS)</i>		Date Time <i>1413</i>		Received By <i>RTCOFFMAN</i>		Date Time <i>1413</i>		SPECIAL INSTRUCTIONS ** Total Activity Results Required**		Matrix * S - Sediment SE - Solid SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation N - Other	
		Relinquished By		Date Time		Received By		Date Time					
		Relinquished By		Date Time		Received By		Date Time					
		Relinquished By		Date Time		Received By		Date Time					
LABORATORY SECTION		Received By		Title						Date Time			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By						Date Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-26		Page 1 of 1			
Collector <i>K. Young</i>				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DI.		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018							
Ice Chest No. <i>1982</i>				Field Logbook No. <i>WHC-N-205 #65</i>		Method of Shipment GOVT. VEHICLE							
Shipped To Mobile Laboratory				Offsite Property No. <i>NA</i>		Bill of Lading/Air Bill No. <i>IVA</i>							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH ~2 Cooled to 4C							
				Type of Container		Gs*							
				No. of Container(s)		1							
Special Handling and/or Storage				Volume		40ml							
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbons							
Sample No.		Matrix *		Sample Date		Sample Time							
BOK5D6		Water		5-22-97		1056		X					
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS ** Total Activity Exempt **						Matrix * S Soil SL Sediment SO Solid SI Sludge W Water O Oil A Air DS Dism Solids DL Drum Liquids F Fume WI Waste L Liquid V Vegetation X Other	
Relinquished By <i>K. Young</i>		Date Time <i>5-22-97</i>		Received By <i>RT Coffman</i>		Date Time <i>5/22/97</i>							
Relinquished By		Date Time		Received By		Date Time							
Relinquished By		Date Time		Received By		Date Time							
Relinquished By		Date Time		Received By		Date Time							
Relinquished By		Date Time		Received By		Date Time							
LABORATORY SECTION		Received By				Title				Date Time			
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-27		Page 1 of 1			
Collector RT SICKLE (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018							
Ice Chest No. 2ML # 268				Field Logbook No. WHC-N-205 #63		Method of Shipment GOVT. VEHICLE							
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. N/A							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCL to pH = 2 Cooled to 4C							
				Type of Container		Gs*							
				No. of Container(s)		1							
Special Handling and/or Storage				Volume		40ml							
SAMPLE ANALYSIS						VOA BY HPLC Chlorinated Hydrocarbon							
Sample No.		Matrix *		Sample Date		Sample Time							
B0K5D7		Water		5/21/97		1041							
CHAIN OF POSSESSION		Sign/Print Names											
		Relinquished By		Date Time		Received By		Date Time		SPECIAL INSTRUCTIONS ** Total Activity Exempt **		Matrix * S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other	
		RT SICKLE (RFS)		5/21/97 13:05		RT Coffman / RT Coffman		5/21/97					
		Relinquished By		Date Time		Received By		Date Time					
		Relinquished By		Date Time		Received By		Date Time					
Relinquished By		Date Time		Received By		Date Time							
LABORATORY SECTION		Received By		Title						Date Time			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By						Date Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-015-27		Page 1 of 1			
Collector <i>K. Young</i>				Company Contact JH KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 2) Groundwater Sampling--FY1997				Sampling Location 200-W		SAF No. C97-015							
Ice Chest No. <i>1982</i>				Field Logbook No. <i>WHC - N - 205 #65</i>		Method of Shipment GOVT VEHICLE							
Shipped To Mobile Laboratory				Offsite Property No. <i>NA</i>		Bill of Lading/Air Bill No. <i>NA</i>							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	HCl to pH <2 Cooled to 4C								
				Type of Container	Gs*								
				No. of Container(s)	1								
Special Handling and/or Storage				Volume	40ml								
SAMPLE ANALYSIS					VOA BY FIELD GC -- Chlorinated Hydrocarbon								
Sample No.	Matrix *	Sample Date	Sample Time										
B0K5C5	Water	<i>5-22-97</i>	<i>0841</i>	<i>X</i>									
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS TOTAL ACTIVITY EXEMPT				Matrix * S - Soil SL - Sediment SO - Solid SI - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other			
Relinquished By	Date Time	<i>1335</i>	Received By	Date Time	<i>1335</i>								
<i>K. Young</i>	<i>5-22-97</i>	<i>RT Coffman</i>	<i>RT Coffman</i>	<i>5/22/97</i>									
Relinquished By	Date Time		Received By	Date Time									
Relinquished By	Date Time		Received By	Date Time									
Relinquished By	Date Time		Received By	Date Time									
LABORATORY SECTION		Received By				Title				Date Time			
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-015-28		Page 1 of 1			
Collector RT SICKLE (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 2) Groundwater Sampling--FY1997				Sampling Location 200-W		SAF No. C97-015							
Ice Chest No. SML #2108				Field Logbook No. WHC-N-205 #63		Method of Shipment GOVT. VEHICLE							
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH 2 Cooled to 4C							
				Type of Container		Gs*							
				No. of Container(s)		1							
Special Handling and/or Storage				Volume		40ml							
SAMPLE ANALYSIS				VOA BY FIELD GA -- Chlorinated Hydrocarbon									
Sample No.		Matrix *		Sample Date		Sample Time							
BOK5C6		Water		5/21/97		1130		✓					
CHAIN OF POSSESSION		Sign/Print Names						SPECIAL INSTRUCTIONS TOTAL ACTIVITY EXEMPT					
		Relinquished By RT SICKLE (RFS)		Date Time 13:45		Received By RT Coffman						Date Time 13:45	
		5/21/97		5/21/97									
		Relinquished By		Date Time		Received By						Date Time	
		Relinquished By		Date Time		Received By						Date Time	
Relinquished By		Date Time		Received By		Date Time							
Relinquished By		Date Time		Received By		Date Time							
LABORATORY SECTION		Received By		Title				Date Time					
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date Time					

S - Soil
 SL - Sediment
 SO - Solid
 SI - Sludge
 W - Water
 O - Oil
 A - Air
 DS - Drum Solids
 DL - Drum Liquids
 T - Tissue
 WI - Waste
 L - Liquid
 V - Vegetation
 N - Other

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-28		Page 1 of 1			
Collector RT SICKLE (RFS)			Company Contact Jill Kessner			Telephone No. (509) 372-9538			Project Coordinator Stewart, DJ		Data Turnaround Field		
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997			Sampling Location 200W			SAF No. C97-018							
Ice Chest No. SML # 182			Field Logbook No. WHC-N-205 #63			Method of Shipment GOVT VEHICLE							
Shipped To Mobile Laboratory			Offsite Property No. NA			Bill of Lading/Air Bill No. NA							
POSSIBLE SAMPLE HAZARDS/REMARKS			Preservation		HCl to pH = 2 Cooled to 4C								
			Type of Container		Gs*								
			No. of Container(s)		1								
Special Handling and/or Storage			Volume		40ml								
SAMPLE ANALYSIS					VOA BY FIELD GC -- Chlorinated Hydrocarbon								
Sample No.		Matrix *	Sample Date	Sample Time									
BOKSD8		Water	5/21/97	1001	✓								
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS ** Total Activity Exempt **							
Relinquished By: RT SICKLE (RFS)		Date/Time: 5/21/97 1345		Received By: RT COFFMAN / RT Coffman								Date/Time: 5/21/97	
Relinquished By:		Date/Time:		Received By:								Date/Time:	
Relinquished By:		Date/Time:		Received By:								Date/Time:	
Relinquished By:		Date/Time:		Received By:								Date/Time:	
LABORATORY SECTION		Received By				Title				Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time			

Matrix *
 S - Soil
 SE - Sediment
 SO - Solid
 SL - Sludge
 W - Water
 O - Oil
 A - Air
 DS - Drums Solids
 DL - Drums Liquids
 T - Tissue
 WI - Wipe
 L - Liquid
 V - Vegetation
 X - Other

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-29		Page 1 of 1	
Collector <i>K. Young</i>				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field	
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY 1997				Sampling Location 200W		SAF No. C97-018					
Ice Chest No. <i>1982</i>				Field Logbook No. <i>WAC-N-205 # 65</i>		Method of Shipment GOVT. VEHICLE					
Shipped To Mobile Laboratory				Offsite Property No. <i>NA</i>		Bill of Lading/Air Bill No. <i>NA</i>					
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooked to 4C					
				Type of Container		Gs*					
				No. of Container(s)		1					
Special Handling and/or Storage				Volume		40ml					
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon					
Sample No.		Matrix *		Sample Date		Sample Time					
B0K5D9		Water		5-22-97		0910		X			
CHAIN OF POSSESSION		Sign/Print Names						SPECIAL INSTRUCTIONS ** Total Activity Exempt **			
Relinquished By <i>K. Young</i>		Date Time <i>1335</i>		Received By <i>RT Coffman</i>		Date Time <i>1335</i>		Matrix * S - Soil SL - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other			
Relinquished By		Date Time		Received By		Date Time					
Relinquished By		Date Time		Received By		Date Time					
Relinquished By		Date Time		Received By		Date Time					
LABORATORY SECTION		Received By						Title			
FINAL SAMPLE DISPOSITION		Disposal Method						Disposed By			
								Date Time			
								Date Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-30		Page 1		
Collector RT SICKLE (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field		
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY 1997				Sampling Location 200W		SAF No. C97-018						
Ice Chest No. 5ML#182				Field Logbook No. WTC-N-205 #63		Method of Shipment GOVT. VEHICLE						
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA						
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	HCl to pH <2 Cooled to 4C							
				Type of Container	Gs*							
				No. of Container(s)	1							
Special Handling and/or Storage				Volume	40ml							
SAMPLE ANALYSIS					VOA BY FIELD GC -- Chlorinated Hydrocarbon							
Sample No.	Matrix *	Sample Date	Sample Time									
BOK5F0	Water	5/21/97	0926	✓								
CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS ** Total Activity Exempt **						
Relinquished By	Date Time	Received By	Date Time	<div style="float: right;"> Matrix * S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue W1 - Wipe L - Liquid V - Vegetation X - Other </div>								
Relinquished By	Date Time	Received By	Date Time									
Relinquished By	Date Time	Received By	Date Time									
Relinquished By	Date Time	Received By	Date Time									
LABORATORY SECTION		Received By		Title		Date Time						
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date Time						

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-31		Page 1 of 1	
Collector AT SICKLE (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field	
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018					
Ice Chest No. <i>N 117</i>				Field Logbook No. <i>WHE-N:265 # 67</i>		Method of Shipment GOVT. VEHICLE					
Shipped To Mobile Laboratory				Offsite Property No. <i>N 117</i>		Bill of Lading/Air Bill No. <i>N 117</i>					
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH ~ 2 Cooled to 4°					
				Type of Container		Gs*					
				No. of Container(s)		1					
Special Handling and/or Storage				Volume		40ml					
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon					
Sample No.		Matrix *		Sample Date		Sample Time					
BOKSF1		Water		5-21-97		0835		✓			
CHAIN OF POSSESSION		Sign/Print Names						SPECIAL INSTRUCTIONS ** Total Activity Exempt **			
Relinquished By <i>AT SICKLE (RFS)</i>		Date/Time <i>5/21/97 1345</i>		Received By <i>RT Coffman</i>		Date/Time <i>5/21/97</i>		Matrix * S - Sed SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Dism Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other			
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time					
LABORATORY SECTION		Received By		Title				Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-015-29		Page 1 of 1	
Collector <i>K. Young</i>				Company Contact JH KISSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field	
Project Designation 200-Z/P-1 IRL (Group 2) Groundwater Sampling--FY 1997				Sampling Location 200-W		SAF No. C97-015					
Ice Chest No. <i>1987</i>				Field Logbook No. <i>13HC-N-205 #65</i>		Method of Shipment GOVT. VEHICLE					
Shipped To Mobile Laboratory				Offsite Property No. <i>NA</i>		Bill of Lading/Air Bill No. <i>NA</i>					
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C					
				Type of Container		Gs*					
				No. of Container(s)		1					
Special Handling and/or Storage				Volume		40ml					
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon					
Sample No.		Matrix *		Sample Date		Sample Time					
BOK5C7		Water		5-22-97		1127		X			
CHAIN OF POSSESSION		Sign/Print Names						SPECIAL INSTRUCTIONS TOTAL ACTIVITY EXEMPT			
Relinquished By <i>K. Young</i>		Date Time <i>5-22-97 1335</i>		Received By <i>RT COFFMAN</i>		Date Time <i>5/22/97 1335</i>		Matrix * S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Au DS - Drum Solids DL - Drum Liquids T - Tissue WT - Wipe L - Liquid V - Vegetation X - Other			
Relinquished By		Date Time		Received By		Date Time					
Relinquished By		Date Time		Received By		Date Time					
Relinquished By		Date Time		Received By		Date Time					
Relinquished By		Date Time		Received By		Date Time					
LABORATORY SECTION		Received By						Title			
FINAL SAMPLE DISPOSITION		Disposal Method						Disposed By			
								Date Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-015-30		Page 1 of 1			
Collector <i>K. Young</i>			Company Contact JH KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field				
Project Designation 200-ZP-FIRM (Group 2) Groundwater Sampling--FY1997			Sampling Location 200-W			SAF No. C97-015							
Ice Chest No. <i>1987</i>			Field Logbook No. <i>WHC-N-205 #65</i>			Method of Shipment GOVT. VEHICLE							
Shipped To Mobile Laboratory			Offsite Property No. <i>NA</i>			Bill of Lading/Air Bill No. <i>NA</i>							
POSSIBLE SAMPLE HAZARDS/REMARKS			Preservation		HCl to pH ~2 Cooled to 4C								
			Type of Container		Gs*								
			No. of Container(s)		1								
Special Handling and/or Storage			Volume		-40ml								
SAMPLE ANALYSIS					VOA BY FIELD GC -- Chlorinated Hydrocarbon								
Sample No.	Matrix *	Sample Date	Sample Time										
B0K5C8	Water	<i>5-22-97</i>	<i>1127</i>	<i>X</i>									
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS TOTAL ACTIVITY EXEMPT					Matrix *		
Relinquished By <i>K. Young</i>		Date Time <i>5-22-97 1335</i>		Received By <i>RT COFFMAN/RT Coffman</i>		Date Time <i>5/22/97 1335</i>							S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drums Solids DL - Drums Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other
Relinquished By		Date Time		Received By		Date Time							
Relinquished By		Date Time		Received By		Date Time							
Relinquished By		Date Time		Received By		Date Time							
LABORATORY SECTION		Received By				Title				Date Time			
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date Time			